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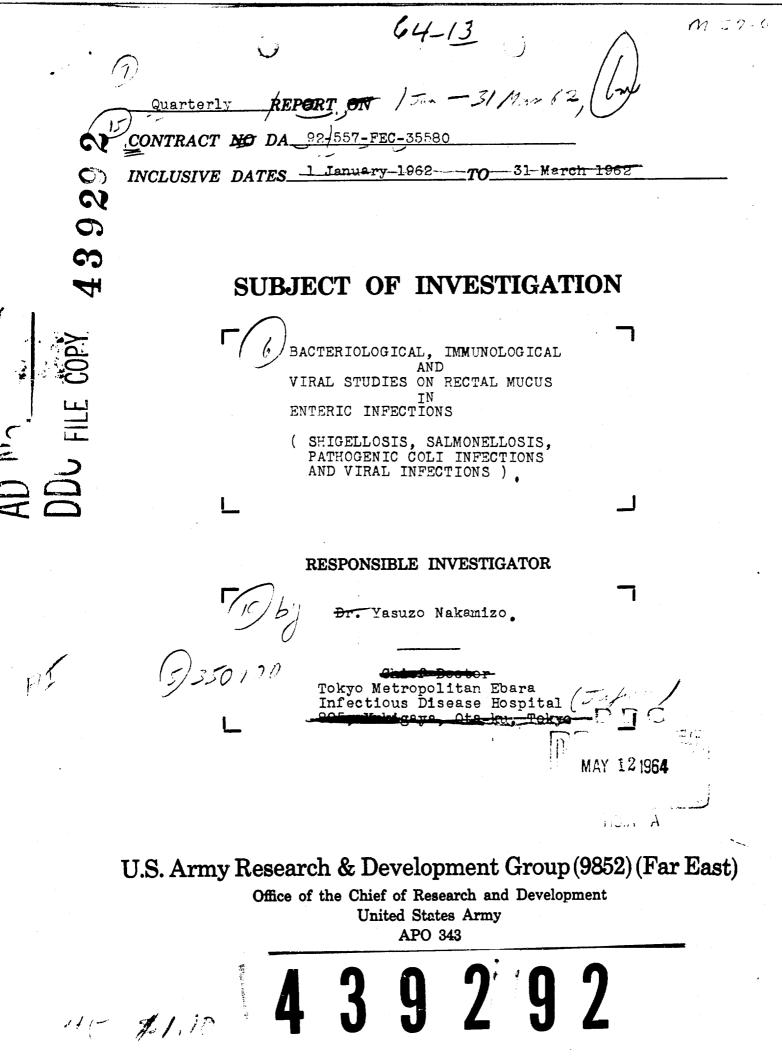
SCIENTIFIC AND TECHNICAL INFORMATION

CAMERON STATION, ALEXANDRIA, VIRGINIA



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BACTERIOLOGICAL, IMMUNOLOGICAL AND VIRAL STUDIES ON RECTAL MUCUS IN ENTERIC INFECTIONS

(SHIGELLOSIS, SALMONELLOSIS, PATHOGENIC COLI INFECTIONS AND VIRAL ENTERIC INFECTIONS)

Serological findings on serum and rectal mucus in bacillary dysentery patients obtained during the period of 1 January through 31 March 1962 are as follows:

1. Hem-agglutinin titers of serum and mucus

Hem-agglutinin titration of serum and rectal mucus was carried out using human O-type trypsinized erythrocytes. A Shigella suspension in physiological saline in the concentration of 5 mg/ml was heated at 100 C for 60 minutes and the supernatant fluid, after being centrifuged at 4000 r. p. m. for 30 minutes, was used 8 an antigen for the hem-agglutination test.

- a. In Shigella flexneri 2a infected cases the agglutinin ititers and the hemagglutinin titers of serum and mucus were compared. Both in serum and mucus the hemagglutinin titers were mostly higher than the agglutinin titers. (Table 1)
- b. It was demonstrated that the hem-agglutinin titers of serum and mucus in Shigella sonnei infected cases were generally lower than those in other Shigella infected cases.
- c. In cases in which Shigella excretion persisted over three weeks, the peak of the hem-agglutinin titers were reached mostly in the third or fifth week of illness. But in cases in which Shigella excretion stopped within the first or second week of illness the highest hem-agglutinin titers were attained in the second or fourth week of illness. From these data it was assumed that the hem-agglutinin titer might be closely associated with the excretion of dysentery bacilli. (Table 2)
- d. As far as the antigenicity of Shigeliae as observed in the agglutination test as well as the hem-agglutination test is concerned, there seems to be no significant difference between the strains sensitive to antibiotics and those resistant to them.

Table 1

Dilution	Agglutinin titer	Hem-agglutinin titer	Agglutinin titer	Hem-agglutinin titer		
1280 X				1		
640		1	·	3		
32 0		1		3		
160		5	2	1		
80	6	15	, 4 ¦	2		
40	10	1	6	3		
<40	7		11	10		
	Serum		1	Mucus		

^{*}Data from 23 cases with Shigella flexneri 2a infection

Table 2

Duration until Shigella	Material	Week of illness reached peak		hem-agglutinin	titer
excretion stopped		Second week	Third week	Fourth week	Fifth week
Within	Serum	3	8	4	0
l weeks	Mucus	5	8	4	0
Within	Serum	1	2	2	0
2 weeks	Mucus	1	2	2 .	0
Within	Serum	0	1	1	1
3 weeks	Mucus	0	2	0	0
Over	Serum	0	0	4	1
3 weeks	Mucus	0	0	i 4	1